ICLEI
Local Governments for Sustainability

3D data to decarbonise in a decade

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Centre for Sustainable Energy

Topics

3D overview: what, where, who, how, when, why...

Accessing and interpreting data via the data hub

Using data to identify opportunities

Using data to engage stakeholders

Using data to drive project delivery

Challenges and learning

Project overview

Online data to help Birmingham reach net zero

Where?

Aberdeen
Glasgow
Edinburgh
Newcastle
Belfast
Leeds
Manchester
Liverpool
Birmingham
Swansea
London
Bristol
Southampton
Plymouth

Who?

- Centre for Sustainable Energy
  www.cse.org.uk
- Birmingham City Council
- Route to Zero Taskforce
- Local community partners…

We help people change the way they think and act on energy.

cse.org.uk

Local stakeholders

Route to Zero Project Board

Route to Zero Taskforce

Low income neighbourhoods

BAME communities

Artistic and creative bodies

Youth groups and schools

Small businesses

Local food groups

Registered Social Landlords

Faith communities

'Able to pay' neighbourhoods

Housing developers

XR, Transition and other campaign groups

Short-commute drivers

Cyclists

How and when?

- 2 year project, running until November 2022
- 4 key phases of activity:

Phase 1: data analysis + access

- Datasets identified, modelled, processed
- Open-source, city-wide energy data-set for Birmingham

Phase 2: communication

- Training sessions delivered
- Communication with stakeholders
- Newsletter
- Stakeholder register

Phase 3: application

- City-scale applications of data
- Use of data to deliver decarbonisation policies & programmes
- 10 community grants

Phase 4: evaluation

- Feedback from stakeholders
- Report on lessons learned
- Dissemination

Why?

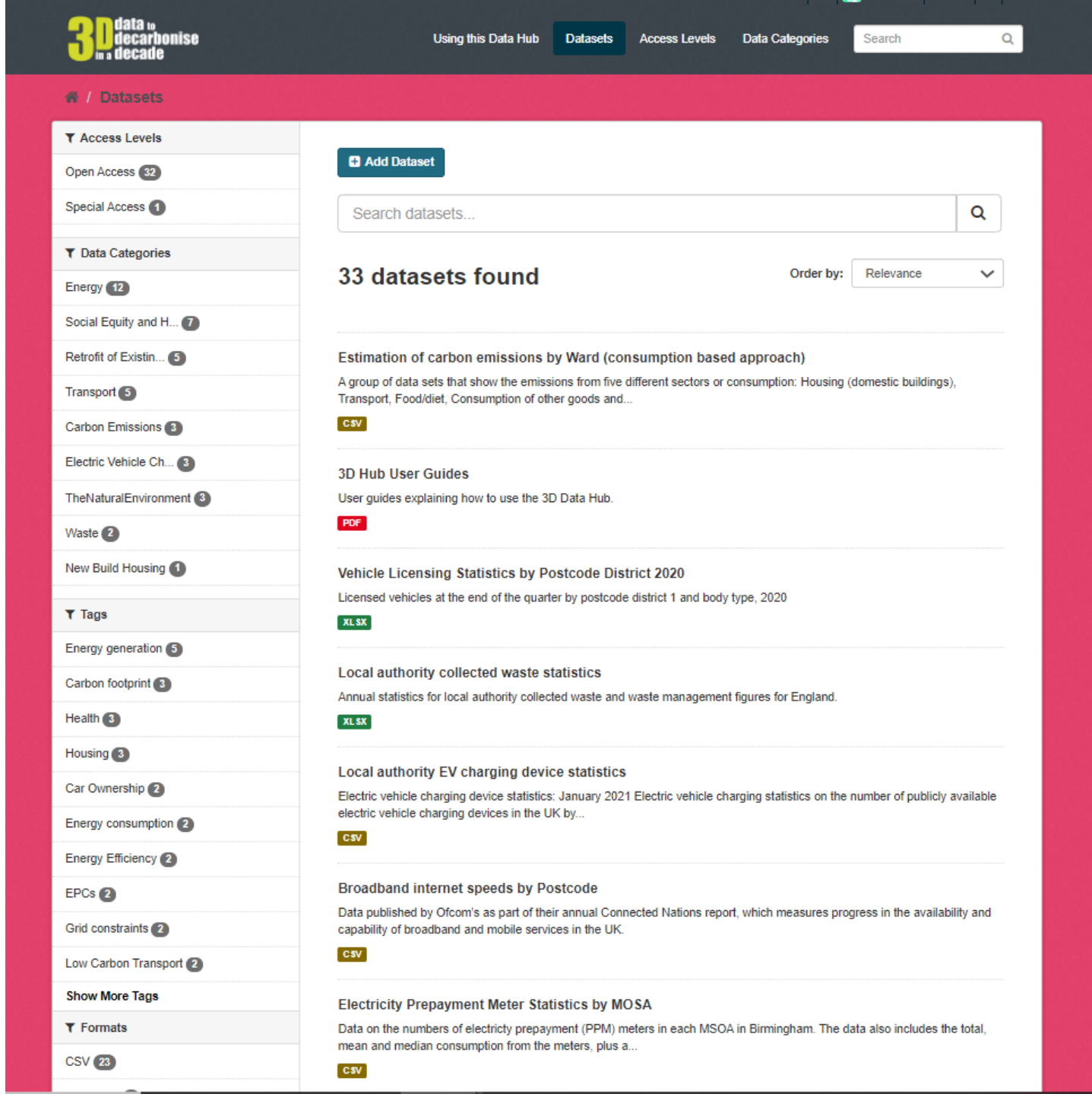
- 2030 climate action targets
- Climate emergency declaration
- Route to Zero action plan
- Carbon reduction opportunities
- Replicability

The data hub

3D data hub

- Datasets
  - Variety of energy and emissions related data
  - >30 data sets
  - Open data wherever possible
- Data categories
  - 9 data categories
- Data processing
  - Cleaning data
  - Checking licenses
  - Bespoke data analysis combining multiple datasets
- Interpretation of data
  - Different previews available within the hub
  - Some visualisations pre-configured
  - Suggestions / requests welcome for help with using data to deliver action

https://data.3dhub.org.uk/dataset/



Data categories

- New Build Housing
- Retrofit of Existing Housing Stock
- Transport
- E.V. Charging Points
- Waste
- Energy
- The Natural Environment
- Carbon emissions
- Social equity and health

Accessing and interpreting data

- Geographic levels
- Aggregation of data
- Meta data
- Data tables
- Graphs
- Maps
- Downloads
- Other functions e.g. API, follow a dataset
- Requesting help (e.g. you might want to aggregate several datasets)

Engaging stakeholders

Stakeholder buy in

3D project stakeholders

- Provide information
- Highlight opportunities
- Offer of additional support and funding
- Communication and 2 way dialogue (e.g. via workshops)

Householders, communities, networks…

- → Information
- → Highlight opportunities
- → Use modelling (e.g. Mosaic) to help with messaging

Communication tools

- 1:1 meetings, conversations, emails
- Presentations and training
- Online resources (e.g. website; flipbook)
- Social media, newsletter, news stories
- Videos
- Case studies

Project stakeholders

Data

Topics

Format

Presentation

Involving stakeholders

- “What open data would you like to be able to access?”
- “How do you need to be able to see it?”
- “What do you plan to do with it?”
- “What other help do you need?”

I want to use [data sets] to do [action] in order to achieve [benefit]

Using data

Ways in which data can be applied

- visualise or share information as an awareness raising tool
- better engage with people, or to increase participation

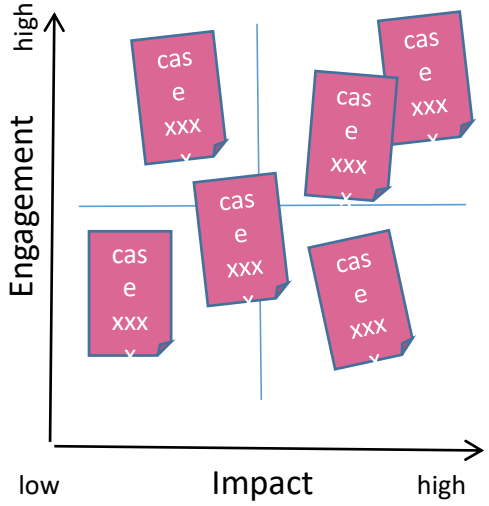
- make activities more effective
  - plan projects and activities by assessing geographical areas; targeting communities; identifying projects that will have the greatest chance of success

- explore cost / benefit, value and income streams (e.g. solar PV installations)

Impacts

Benefits focus on

- Carbon emissions
- Citizen engagement
- Co-benefits

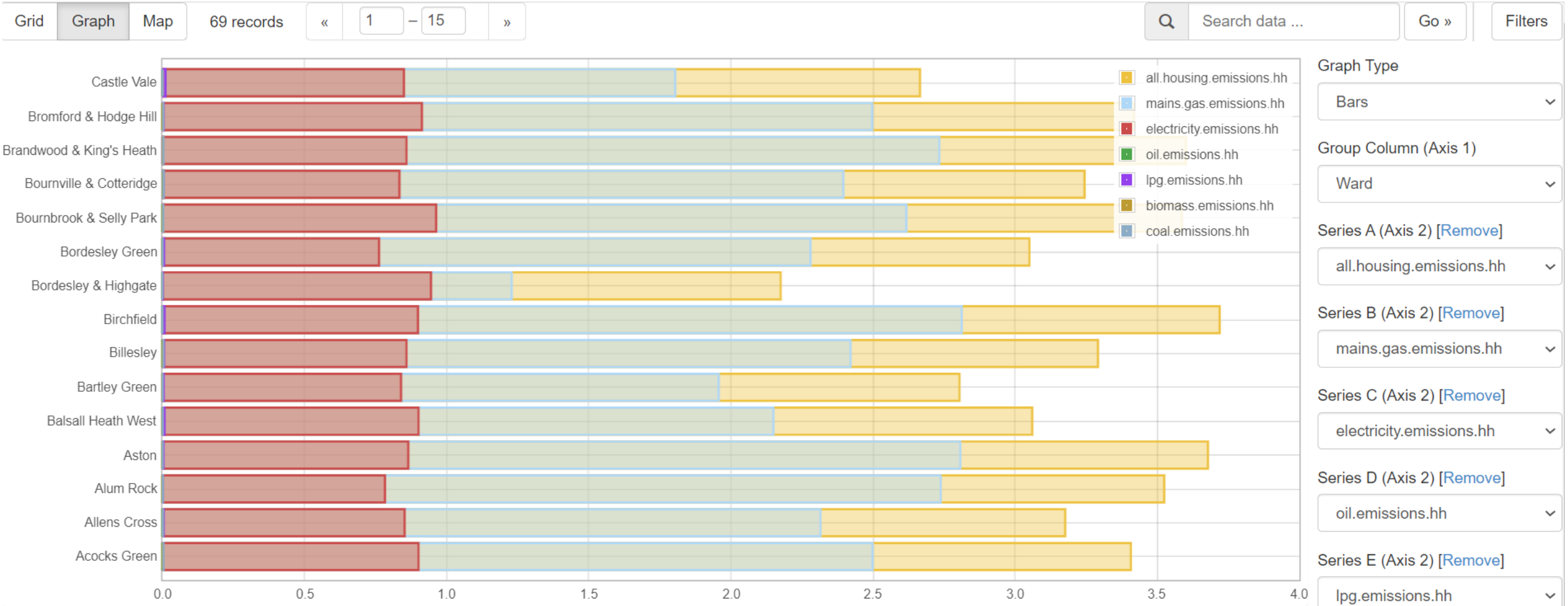


Support with applying data

- Help with data analysis
- Bespoke data sets
- How to guides
- Case studies
- Wider support including funding

Using data to drive project delivery

Improving energy efficiency of buildings



Fuel poverty

Birmingham fuel poverty 2018 by LSOA (geojson)

Manage | Download

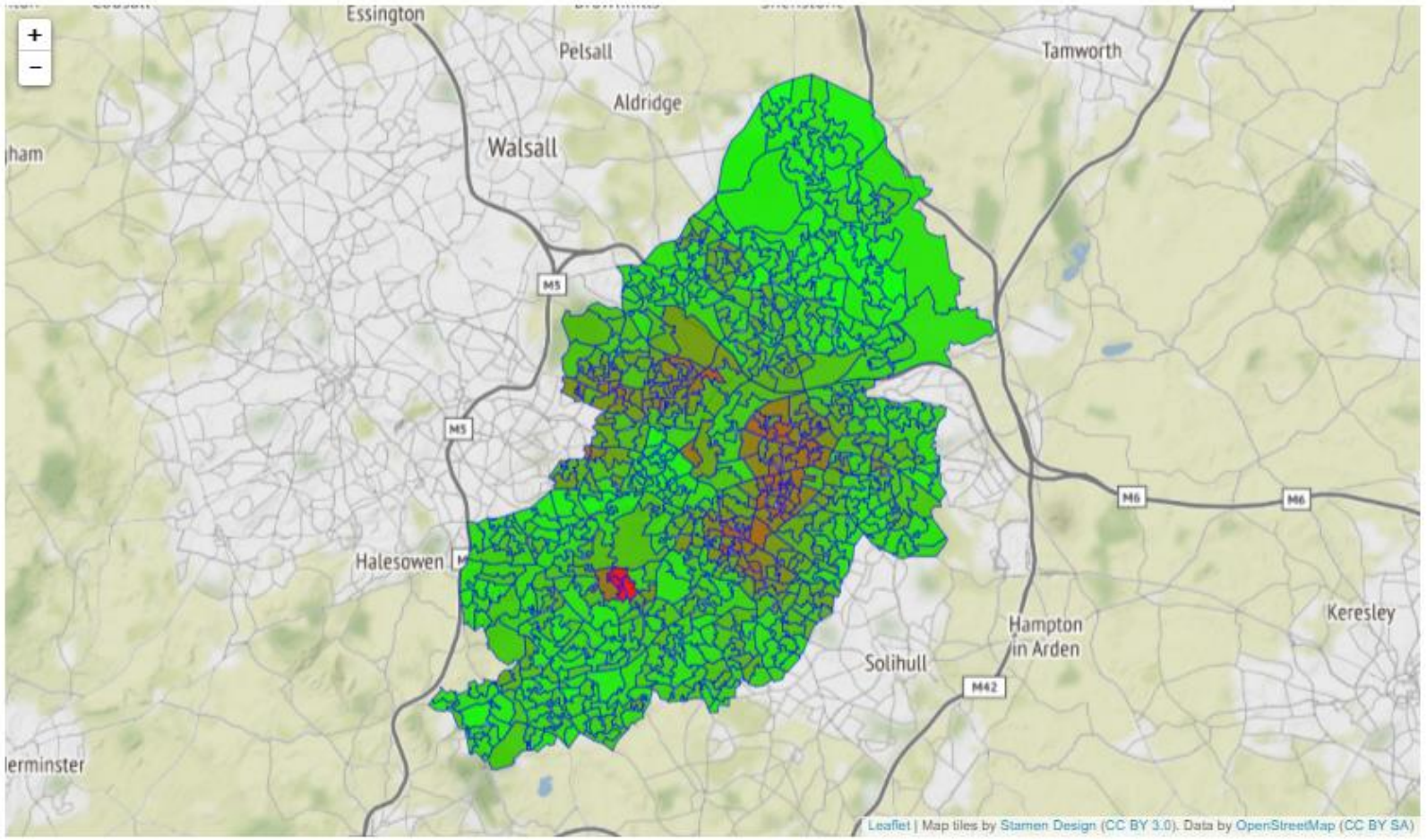
URL: https://data.3dhub.org.uk/dataset/7ebcb8d5-24c2-4f21-a96c-e6d68c76b3c3/resource/207035fc-7a49-4317-b851-e39d6d8aab20/download/birmingham-fuel-poverty-2018-l...

Fuel poverty numbers and proportions in each LSOA in Birmingham.

The colour is more red for higher "fuel.poor.households.pct" values.

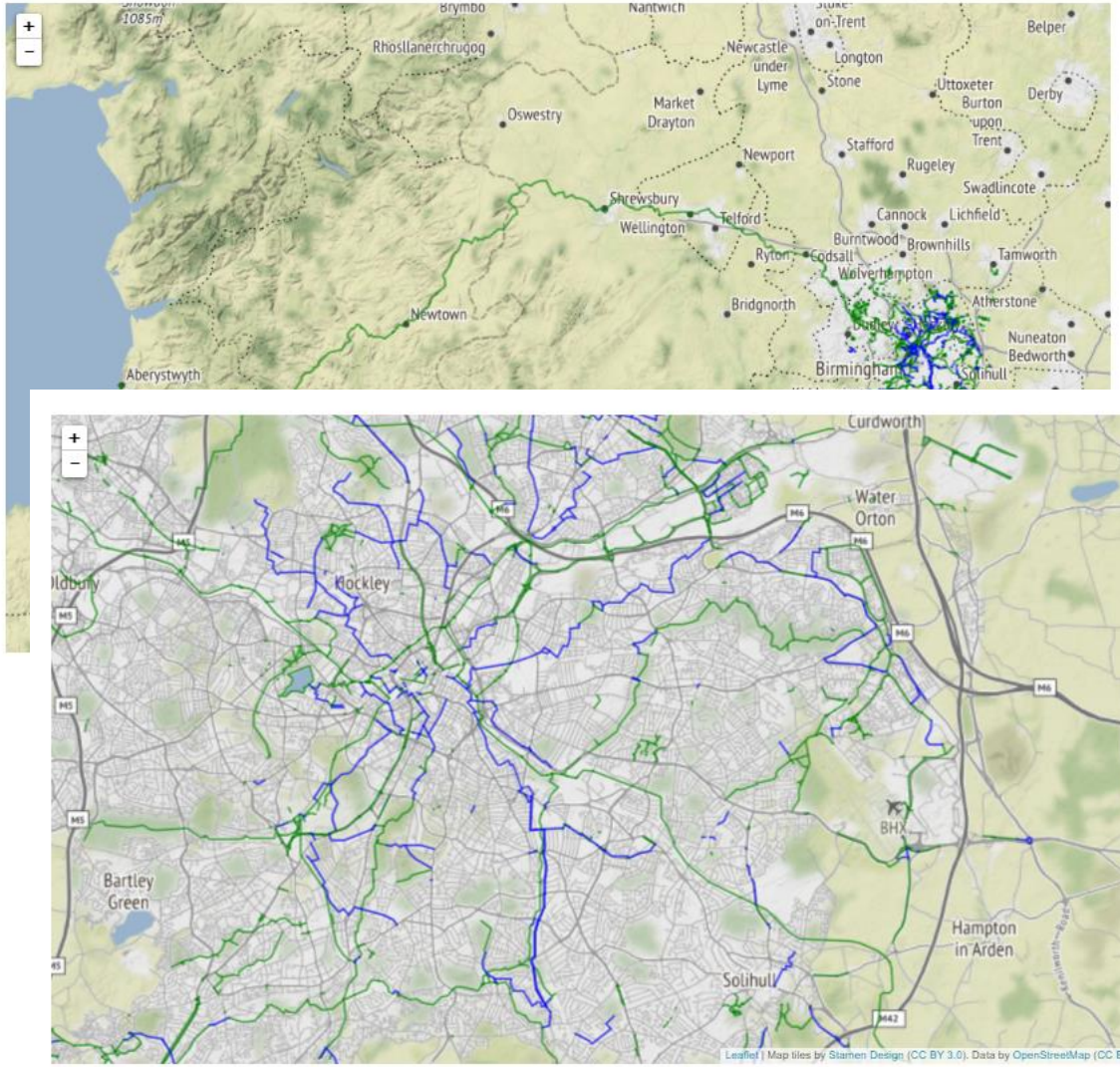
GeoJSON

Fullscreen | Embed

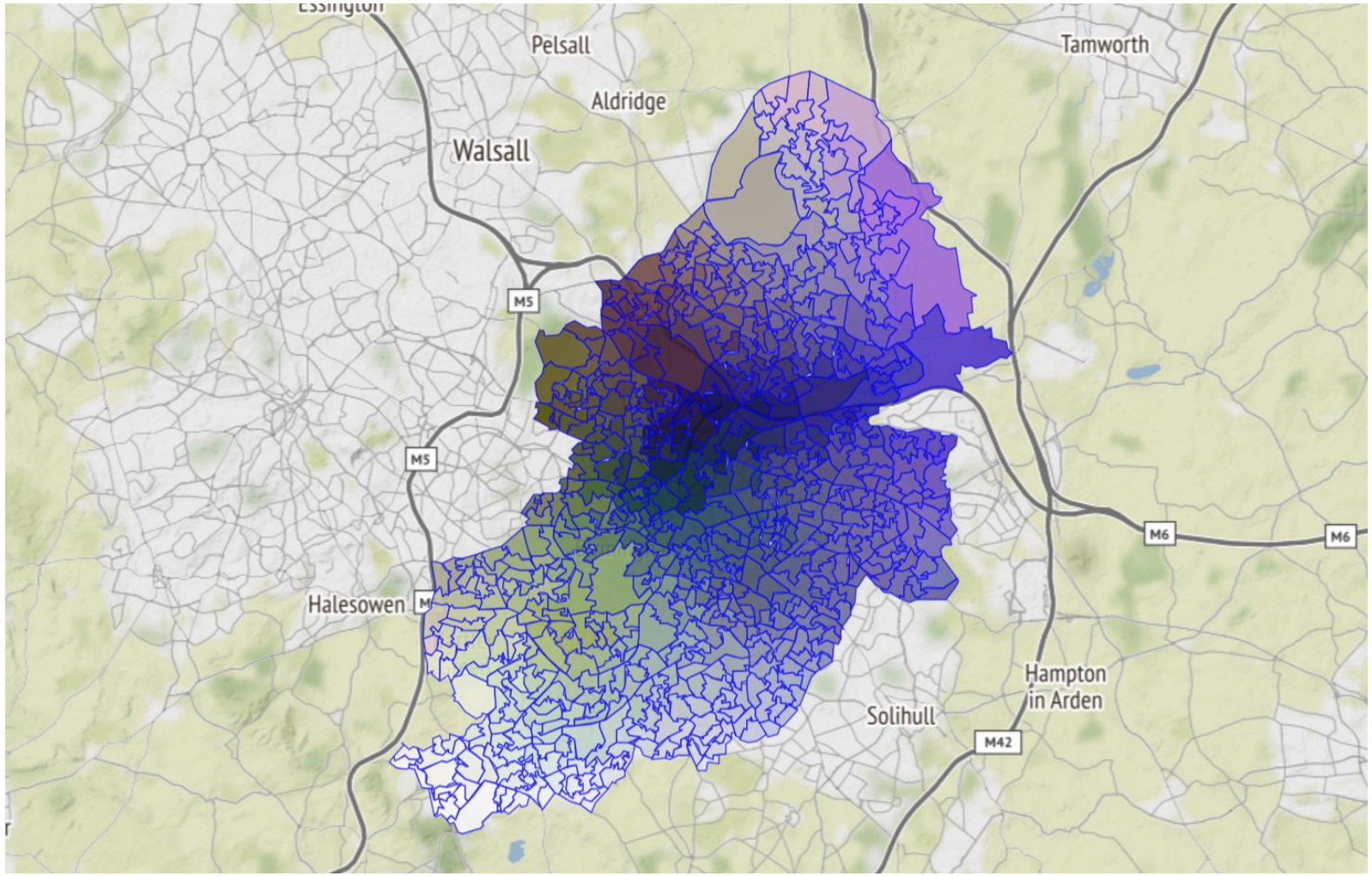


Solar PV schemes

Travel initiatives



Awareness raising



Communications and engagement

Fig.3. The 'Free rider' excuse

Fig.2. Individualism

Fig.6. Fossil fuel solutionism

https://www.leolinne.com/?portfolio=discourses-of-climate-delay

Challenges and learning

Challenges

Clear scope and benefits	• Need to ensure stakeholders recognise benefits of the data hub • Early engagement to understand priorities and manage expectations
Managing resource	• Multiple partners and multiple data applications • Prioritization to achieve maximum time efficiency, impact and value
Multiple data sets in different formats	• Data sets in different formats and covering different topics. • Data made available as multiple file types; range of visualization options
Choice of platform	• Pros and cons of different options (open source / commercial / bespoke) • CKAN is an open source platform that we adapted to meet needs
Granularity of data	• Highly granular data more valuable but need to consider GDPR • Datasets aggregated (in particular buildings data to protect privacy)
Measuring impact	• Projects and activity will be delivered by stakeholders and could include a wide range of measurables. Impact plan designed to accommodate this.

Lessons learned

- Align with existing city or local government targets to maximize engagement and value
- ‘One stop shop’ makes it easier to use data for decision-making and project planning
- Stakeholder surveys and user testing to make a more accessible and user-friendly platform
- Funding and time to work with multiple smaller stakeholders
- Value in using existing datasets